Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Correspondence

Intrauterine transfusion in COVID-19 positive mother vertical transmission risk assessment

Dear Editors,

Since its recent outbreak Sars-CoV-2 infection has emerged as a potential threat to feto-maternal wellbeing. Literature data supporting possibility of vertical transmission haven't been reported yet, but insufficient data so far cannot rule this possibility out [1,2].

Hemolytic disease of the fetus and newborn (HDFN) remains a serious pregnancy complication which can lead to severe fetal anemia, fetal hydrops and perinatal death [3].

A thirty-three year old secundigravida was admitted to our Obstetrics/Gynecology Covid-19 dedicated hospital due to positive nasopharyngeal swab for Covid-19 infection, dry caught and asymptomatic fever up to 37.5 °C. Serology analysis confirmed presence of SARS-CoV-2 IgM class antibodies.

The patient had earlier presented with red cell alloimunosation due to the RhD antigen (anti RhD titer 1:128), fetal hydrops and pregnancy- related hypertension. She was at 30th week of gestation and by that time she had already had three intrauterine transfusions (at 26th, 27th and 29th gestational week).

Upon admission ultrasound was performed and fetal fluid accumulation was confirmed. Echolucent rim all the way around fetal abdomen and small rims of fluid outlining pleural space with no lung compression signs were visualized. Peak systolic velocity (PSV) in medial cerebral artery (MCA) was monitored daily and signs of fetal anemia were detected.

Two days after the admission an intrauterine transfusion was successfully performed, using all measurements of precaution prescribed for COVID-19 pandemics. Posterior placentation was confirmed and through a free – floating loop of cord the umbilical vein was punctured and blood sample was collected and sent to laboratory analysis. Serology analyses were also performed in order to determine fetal COVID-19 status.

Hemoglobin value was 114 g/dl and hematocrit value was 0.338 before and hemoglobin value 151 g/dl and hematocrit 0,465 after transfusion. Fetus received 290 mL of blood transfusion. Two hours after the procedure, SARS-CoV-2 IgM and IgG class antibodies report revealed no laboratory signs of COVID-19 transmission from mother to fetus.

During the next ten days mother and fetus were under constant medical surveillance and no signs of fetal anemia were detected, PSV in fetal MCA was in the reference range for gestational age.

In the 32nd week of gestation, due to progressive shortness of breath Cesarean section was performed and a male premature newborn was born (2260 g weight and 43 cm long). Umbilical vein and amniotic fluid samples, as well as throat and nasopharynx swabs, were collected and sent for RT-PCR analysis. Given the gestational age, newborn initially adapted well and he scored 8 in the first minute and 9 in the fifth minute of life according to Apgar scoring system. RT-PCR analysis report came on the following day and result was negative. After the performed operation mother was referred to CT diagnostics and CT report revealed signs of bilateral pneumonia. Nasopharyngeal swab for Covid-19 infection was re-collected and result was positive again.

In consultation with Infectious disease specialist Ceftriaxone, Metronidazole and Lopinavir/Ritonavir were administrated during the next 10 days and mothers clinical condition improved significantly and her clinical condition was stable.

Seven days after birth infant was tested again, throat and nasopharynx swabs were collected and results were negative. On the 11th postpartum day nasopharynx swab for Covid-19 infection from mother was taken again, and result was negative. Serology analysis detected presence of SARS-CoV-2 IgG class antibodies.

Mother was discharged on the 12th postpartum day. Mandatory fourteen days long quarantine was requested. Infant remained hospitalized for further observation and medical treatment required by the neonatologist.

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Dejan Filimonovic[a,b]
[a]School of Medicine, University of Belgrade, Belgrade, Serbia

[b]Obstetrics/Gynecology Clinic Narodni Front, Belgrade, Serbia

Milan Lackovic
Ivana Filipovic*
Clinical Centre dr Dragisa Misovic ? Hospital for Gynecology and Obstetric, Belgrade, Serbia

Natasa Karadzov Orlic[a,b]
Vesna Mandic Markovic[a,b]
[a]School of Medicine, University of Belgrade, Belgrade, Serbia

[b]Obstetrics/Gynecology Clinic Narodni Front, Belgrade, Serbia

Vladimir Djukic[a,b]
[a]School of Medicine, University of Belgrade, Belgrade, Serbia

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[b]Clinical Centre dr Dragisa Misovic ? Hospital for Gynecology and Obstetric, Belgrade, Serbia

Ivana Pesic Stevanovic
Obstetrics/Gynecology Clinic Narodni Front, Belgrade, Serbia

Sladjana Mihajlovic[a,b]
[a]School of Medicine, University of Belgrade, Belgrade, Serbia

[b]Clinical Centre dr Dragisa Misovic ? Hospital for Gynecology and Obstetric, Belgrade, Serbia

* Corresponding author.
E-mail address: drivanica@yahoo.com (I. Filipovic).

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